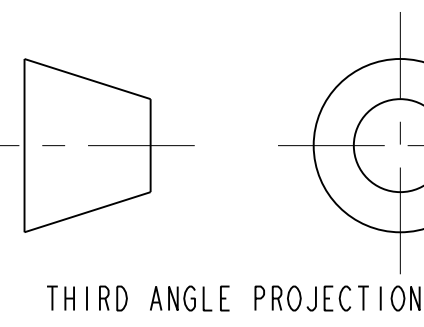


NOTES: (UNLESS OTHERWISE SPECIFIED)

- THIS IS A CRYOGENIC VACUUM COMPONENT.
- WELDING PROCEDURE: PER VENDOR SPECIFICATION WITH LBNL APPROVAL.
- CLEANING PROCEDURE : PER VENDOR SPECIFICATION WITH LBNL APPROVAL.
- PACKAGING AND STORAGE PROCEDURE OF THE COMPONENTS: PER VENDOR SPECIFICATION WITH LBNL APPROVAL.
- DIMENSIONS AND TOLERANCING PER ANSI Y14.5M-1982. UNITS ARE IN INCHES [mm] UNLESS OTHERWISE SPECIFIED.
- USE OF SULFUR OR SILICONE BEARING OILS, LUBRICANTS, OR COOLANTS ARE STRICTLY PROHIBITED.
- USE OF RESIN OR RUBBER BONDED ABRASIVES UNDER POWER IS STRICTLY PROHIBITED. USE VITREOUS BONDED ABRASIVES ONLY.
- VENDOR SUGGESTED CHANGES TO WELD PREPS; SUBJECT TO LBNL APPROVAL.
- FITTINGS MAY BE USED IN PLACE OF BENDS; SUBJECT TO LBNL APPROVAL.
- VENDOR SUGGESTED CHANGES TO TOLERANCES TO FACILITATE FABRICATION OR ASSEMBLY; SUBJECT TO LBNL APPROVAL.
- REMOVE ALL THE BURRS AND REAM THE ENDS FOR CIRCULARITY AND CLEAN ENDS.
- TUBE END SURFACE MUST BE PERPENDICULAR TO THE TUBE AXIS WITHIN +/- .010.
- PERFORM ACCEPTANCE TESTS PER LBNL SPECIFICATION M989.
- A MARK DESIGNATING THE INSTALLED LENGTH WILL BE UTILIZED DURING FINAL INSTALLATION OF THE DEEDBOX ASSEMBLY. MARK, SCRIBE OR ETCH THIS LOCATION IN A PERMANENT MANNER, SUBJECT TO LBNL APPROVAL, TO AN ACCURACY OF 0.063".
- PROVIDE A MINIMUM LENGTH OF 4.0" OF STRAIGHT, SMOOTH PIPE ON THE INDICATED SIDE OF THE INSTALLED LENGTH MARK FOR PIPE WELDING DURING FINAL INSTALLATION OF THE FEEDBOX ASSEMBLY.
- PIPE MUST BE STRAIGHT AND SMOOTH (NO BUMPS) FOR 1.5" ON EITHER SIDE OF THE CENTER-PLANE OF THE SUPPORT.
- CAP BOTH ENDS OF PIPE TO FACILITATE ACCEPTANCE TESTS.




THIRD ANGLE PROJECTION

| REV | DWG | CHK | DATE | ZONE | DATE | CHANGES |
|-----|-----|-----|----------|------|------|--|
| C | RLM | JPZ | 6/9/03 | | | REROUTE: 7.5 WAS 7.0; 6.0 WAS 7.3; 8.2 WAS 7.0; 6.7 WAS 9.9; 20.3 WAS 23.0; R 2.25 WAS R 1.9; 19.9 WAS 17.2; PIPE CALL OUT |
| B | ARH | DPO | 02/26/03 | | | REVISED DRAWING NOTES 13, 16 & 17 |
| A | ARH | SPV | 10-29-02 | | | INITIAL RELEASE |

UNLESS OTHERWISE SPECIFIED
X.X ± 0.1 FRACTION ± 1/164
X.XX ± 0.03 ANGLES ± 1.00°
X.XXX ± 0.010 FINISH - 125/32 μm
DO NOT SCALE PRINT
THREADS ARE CLASS 2
CUT ROUNDS, 1.5 THREAD RELIEF ON MACHINED THREADS
BREAK EDGES, 0.15 MAX. ON MACHINED WORK
REMOVE BURRS, WELD SPATTER & LOOSE SCALE
IN ACCORDANCE WITH ASME B16.5 & B1.1

| | | | | |
|-------------------|--------|---|---|---------------|
| 9 | - | 1 | PIPE, PER ASTM A312 | SS 304L |
| 8 | - | 1 | PIPE, PER ASTM A312 | SS 304L |
| 7 | - | 1 | PIPE, PER ASTM A312 | SS 304L |
| 6 | - | 1 | PIPE, PER ASTM A312 | SS 304L |
| 5 | 25H406 | 1 | THRUST SUPPORT, BUS DUCT | SS 304L |
| 4 | - | 1 | WELD RING, 10 75mm, FNAL SUPPLIED | SS 304L |
| 3 | - | 1 | BRAIDED FLEX HOSE, 1 1/2" ID X 5.5' LL | SS 300 SERIES |
| 2 | - | 1 | BRAIDED FLEX HOSE, 1 1/2" ID X 4' LL | SS 300 SERIES |
| 1 | 251307 | 1 | FLANGE, FNAL# 5520-MB-390033B, MODIFIED | - |
| ITEM PART NO REQD | | | DESCRIPTION | MATERIAL |

| | | | | |
|-------------|----|------|-------------------------------------|---|
| SHOP ORDERS | | | SER |  |
| ACCT | NO | REQD | DATE | |
| DEL | NO | REQD | DATE | |
| DEL | NO | REQD | DATE | |
| SUBJECT | | | LHC IR FEEDBOX | |
| FELICITY | | | CRYGENICS | |
| PROJECT | | | PIPE WELDMNT, LD ORL / LD CROSSOVER | |
| METHOD TAG | | | PIPE WELDMNT, LD ORL / LD CROSSOVER | |
| LOG | | | PIPE WELDMNT, LD ORL / LD CROSSOVER | |
| NUMBER | | | PIPE WELDMNT, LD ORL / LD CROSSOVER | |
| PROJ# | | | PIPE WELDMNT, LD ORL / LD CROSSOVER | |
| N/A | | | PIPE WELDMNT, LD ORL / LD CROSSOVER | |

| | | | |
|------|-----------|------|-----------|
| DATE | 11-Oct-01 | DATE | 11-Oct-01 |
| DATE | 29-Oct-01 | DATE | 29-Oct-01 |
| DATE | 11-Oct-01 | DATE | 11-Oct-01 |

| | | | | | | | |
|---------------|--|--------------|----------------|----------|--------|---------|--------|
| PATENT CLEAR: | | DESIGN ACCT: | CATEGORY CODE: | DWG. NO: | SCALE: | LD DUCT | SCALE: |
| | | 5Z15CE2 | LDH2003 | | 1/4 | | |

| | |
|--------------|---|
| SHEET 1 OF 1 | |
| 25M9186 | |
| REV. | C |